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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	Jan 25	BLAST(R) searching in REGISTRY available in STN on the Web
NEWS 3	Jan 29	FSTA has been reloaded and moves to weekly updates
NEWS 4	Feb 01	DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS 5	Feb 19	Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS 6	Mar 08	Gene Names now available in BIOSIS
NEWS 7	Mar 22	TOXLIT no longer available
NEWS 8	Mar 22	TRCTHERMO no longer available
NEWS 9	Mar 28	US Provisional Priorities searched with P in CA/CAplus and USPATFULL
NEWS 10	Mar 28	LIPINSKI/CALC added for property searching in REGISTRY
NEWS 11	Apr 02	PAPERCHEM no longer available on STN. Use PAPERCHEM2 instead.
NEWS 12	Apr 08	"Ask CAS" for self-help around the clock
NEWS 13	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 14	Apr 09	ZDB will be removed from STN
NEWS 15	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 16	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 17	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 18	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS 19	Jun 03	New e-mail delivery for search results now available
NEWS 20	Jun 10	MEDLINE Reload
NEWS 21	Jun 10	PCTFULL has been reloaded
NEWS 22	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 23	Jul 19	NTIS to be reloaded July 28, 2002
NEWS 24	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 25	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 26	Jul 30	NETFIRST to be removed from STN

NEWS EXPRESS	February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
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NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
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FULL ESTIMATED COST                                      0.21       0.21

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=> s galactosyl (2w)transferase
L1        2839 GALACTOSYL (2W) TRANSFERASE

=> s l1 (10a) acetylglucosamine
L2          52 L1 (10A) ACETYLGLUCOSAMINE

=> s l2 (10a) 1,3
   9 FILES SEARCHED...
L3           1 L2 (10A) 1,3

=> d

L3   ANSWER 1 OF 1  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   2002:386156  BIOSIS
DN   PREV200200386156
TI   Augmented expression of N-acetylglucosamine beta1,3galactosyl-transferase
     5 (beta 3GalT5) in pancreatic cancer.
AU   Hayashi, Nobuyasu (1); Nakamori, Shoji (1); Okami, Jiro (1); Nagano,
     Hiroaki (1); Dono, Keizo (1); Umeshita, Koji (1); Sakon, Masato (1);
     Monden, Morito (1)
CS   (1) Department of Surgery and Clinical Oncology, Graduate School of
     Medicine, Osaka University, Osaka Japan
SO   Proceedings of the American Association for Cancer Research Annual
     Meeting, (March, 2002) Vol. 43, pp. 107. print.
     Meeting Info.: 93rd Annual Meeting of the American Association for Cancer
     Research San Francisco, California, USA April 06-10, 2002
```

ISSN: 0197-016X.
DT Conference
LA English

=> s l2 and 1,3
6 FILES SEARCHED...
10 FILES SEARCHED...
L4 10 L2 AND 1,3

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5 7 DUP REM L4 (3 DUPLICATES REMOVED)

=> d 1-7

L5 ANSWER 1 OF 7 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2002:386156 BIOSIS
DN PREV200200386156
TI Augmented expression of N-acetylglucosamine beta1,3galactosyl-transferase 5 (beta 3GalT5) in pancreatic cancer.
AU Hayashi, Nobuyasu (1); Nakamori, Shoji (1); Okami, Jiro (1); Nagano, Hiroaki (1); Dono, Keizo (1); Umeshita, Koji (1); Sakon, Masato (1); Monden, Morito (1)
CS (1) Department of Surgery and Clinical Oncology, Graduate School of Medicine, Osaka University, Osaka Japan
SO Proceedings of the American Association for Cancer Research Annual Meeting, (March, 2002) Vol. 43, pp. 107. print.
Meeting Info.: 93rd Annual Meeting of the American Association for Cancer Research San Francisco, California, USA April 06-10, 2002
ISSN: 0197-016X.
DT Conference
LA English

L5 ANSWER 2 OF 7 MEDLINE
AN 2001037761 MEDLINE
DN 20490358 PubMed ID: 11032794
TI X-ray crystal structure of rabbit N-acetylglucosaminyltransferase I: catalytic mechanism and a new protein superfamily.
AU Unligil U M; Zhou S; Yuwaraj S; Sarkar M; Schachter H; Rini J M
CS Department of Medical Genetics and Microbiology, University of Toronto, Toronto, Ontario M5S 1A8, Canada.
NC RR-01646 (NCRR)
SO EMBO JOURNAL, (2000 Oct 16) 19 (20) 5269-80.
Journal code: 8208664. ISSN: 0261-4189.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS PDB-1FO8; PDB-1FO9; PDB-1FOA
EM 200011
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001128

L5 ANSWER 3 OF 7 MEDLINE
AN 92317047 MEDLINE
DN 92317047 PubMed ID: 1320016
TI Characterization of a rat liver protein carboxyl methyltransferase involved in the maturation of proteins with the -CXXX C-terminal sequence motif.
AU Stephenson R C; Clarke S
CS Department of Chemistry and Biochemistry, University of California, Los Angeles 90024.
NC GM 07185 (NIGMS)
GM 26020 (NIGMS)
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1992 Jul 5) 267 (19) 13314-9.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States

DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199208
ED Entered STN: 19920815
Last Updated on STN: 19920815
Entered Medline: 19920805

L5 ANSWER 4 OF 7 MEDLINE
AN 90354395 MEDLINE
DN 90354395 PubMed ID: 2117606
TI Identification of a region of UDP-galactose:N-acetylglucosamine beta 4-galactosyltransferase involved in UDP-galactose binding by differential labeling.
AU Yadav S; Brew K
CS Department of Biochemistry and Molecular Biology, University of Miami, Florida 33136-1015.
NC GM21363 (NIGMS)
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1990 Aug 25) 265 (24) 14163-9.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199009
ED Entered STN: 19901026
Last Updated on STN: 19970203
Entered Medline: 19900927

L5 ANSWER 5 OF 7 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 1988:87569 BIOSIS
DN BA85:44341
TI MODULATION OF TWO DISTINCT GALACTOSYLTRANSFERASE ACTIVITIES IN POPULATIONS OF MOUSE PERITONEAL MACROPHAGES.
AU SHEARES B T; MERCURIO A M
CS MERCK SHARP AND DOHME RES. LABS, P.O. BOX 2000, RAHWAY, N.J. 07065, USA.
SO J IMMUNOL, (1987) 139 (11), 3748-3752.
CODEN: JOIMA3. ISSN: 0022-1767.
FS BA; OLD
LA English

L5 ANSWER 6 OF 7 MEDLINE DUPLICATE 2
AN 81086980 MEDLINE
DN 81086980 PubMed ID: 6778507
TI Role of galactosyl-transferases in rat gastric epithelial glycoprotein synthesis.
AU Strous G J; Hendriks H G; Kramer M F
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1980 Jun 13) 613 (2) 381-91.
Journal code: 0217513. ISSN: 0006-3002.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198103
ED Entered STN: 19900316
Last Updated on STN: 19900316
Entered Medline: 19810327

L5 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2002 ACS
AN 1971:417038 HCAPLUS
DN 75:17038
TI Isolation of a Golgi apparatus-rich fraction from rat liver. IV. Thiamine pyrophosphatase
AU Cheetham, R. D.; Morre, D. James; Pannek, Carol; Friend, Daniel S.
CS Dep. Bot. Plant Pathol., Purdue Univ., Lafayette, Indiana, USA
SO J. Cell Biol. (1971), 49(3), 899-905
CODEN: JCLBA3
DT Journal
LA English

=> d 2,4-6 ab

L5 ANSWER 2 OF 7 MEDLINE
AB N:-acetylglucosaminyltransferase I (GnT I) serves as the gateway from oligomannose to hybrid and complex N:-glycans and plays a critical role in mammalian development and possibly all metazoans. We have determined the X-ray crystal structure of the catalytic fragment of GnT I in the absence and presence of bound UDP-GlcNAc/Mn(2+) at 1.5 and 1.8 A resolution, respectively. The structures identify residues critical for substrate binding and catalysis and provide evidence for similarity, at the mechanistic level, to the deglycosylation step of retaining beta-glycosidases. The structuring of a 13 residue loop, resulting from UDP-GlcNAc/Mn(2+) binding, provides an explanation for the ordered sequential 'Bi Bi' kinetics shown by GnT I. Analysis reveals a domain shared with Bacillus subtilis glycosyltransferase SpsA, bovine beta-1,4-**galactosyl transferase** 1 and Escherichia coli N:-**acetylglucosamine**-1-phosphate uridyltransferase. The low sequence identity, conserved fold and related functional features shown by this domain define a superfamily whose members probably share a common ancestor. Sequence analysis and protein threading show that the domain is represented in proteins from several glycosyltransferase families.

L5 ANSWER 4 OF 7 MEDLINE
AB The location of regions in the primary structure of UDP-galactose:N-**acetylglucosamine** beta 4-**galactosyl-transferase** (GT) that are involved in binding UDP-galactose has been investigated by differential chemical modification with two different reagents in the presence and absence of UDP-galactose. Treatment with periodate-cleaved UDP and NaCNBH3 resulted in a loss of 80% of GT activity, which was largely prevented by UDP-galactose. Stoichiometry of labeling and peptide maps of the modified enzyme samples indicated partial labeling at many sites. A major site of reaction in the absence of UDP-galactose that was essentially unmodified in its presence was found to correspond to Lys341 in the cDNA sequence of GT. As a second approach, the reactivities of the amino groups of GT were compared in the presence and absence of saturating levels of UDP-galactose by trace acetylation with [3H]acetic anhydride. UDP-galactose binding was found to perturb the reactivities of a number of lysines in the C-terminal region of GT, the most pronounced effect being a reduction in the reactivity of Lys351. The two procedures thus identified a region between residues 341 and 351 as being associated with UDP-galactose binding. This region overlaps a small section in the sequence of GT that was previously noted to be similar to part of bovine alpha-**1**,**3**-galactosyltransferase (Joziasse, D. H., Shaper, J. H., Van den Eijnden, D. H., Van Tunen, A. J., and Shaper, N. L. (1989) J. Biol. Chem. 264, 14290-14297). Sequence comparisons indicate that extended regions at the C terminus of each enzyme encompassing this area may represent homologous UDP-galactose-binding domains.

L5 ANSWER 5 OF 7 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AB We have examined two galactosyltransferase activities in membrane preparations obtained from resident macrophages, from resident macrophages maintained in culture for 24 hr, and from thioglycollate (TG)-elicited macrophages. Transfer of galactose from uridine diphosphate (UDP)-galactose to N-acetylglucosamine is 2.6 times higher in membranes prepared from TG macrophages (107 .+-. 5.5 nmol/hr/mg) than in membranes prepared from resident macrophages (41 .+-. 2.0 nmol/hr/mg). Membranes obtained from resident macrophages cultured for 24 hr exhibit a 2.5 times higher activity (102 .+-. 4.4 nmol/hr/mg) than membranes from resident cells plated for 4 hr. Transferase activity in membranes derived from TG macrophages is not significantly affected by overnight culture. The transferase reaction product, isolated on Bio-Gel P-4 and analyzed by galactosidase treatments, was identified as galactosyl-.beta.1, 4-N-acetylglucosamine. The enzyme, therefore, is UDP-galactose:2-acetamido-2-deoxy-D-glucose 4.beta.-galactosyltransferase. This is supported by the fact that this **galactosyl-transferase** activity is specifically inhibited by high concentrations of N-**acetylglucosamine** (200 mM). We have also examined the transfer of

galactose to N-acetyllac[redacted]amine. Membranes from TG-elici[redacted] macrophages contain a UDP-galactose:galactosyl-.beta.1,4-N-acetylglucosamine 3.alpha.-galactosyltransferase which synthesizes the trisaccharide, galactosyl-.alpha.**1**,**3**-galactosyl-.beta.1, 4-N-acetylglucosamine. This product was identified by gel filtration chromatography, high performance liquid chromatography, and galactosidase digestions. This .alpha.-galactosyl-transferase activity was not detected in membranes prepared from resident macrophages. These results indicate that glycosyltransferase activities are modulated in populations of mouse macrophages, and that these changes correlate with changes in cell surface lactosaminoglycans reported previously.

L5 ANSWER 6 OF 7 MEDLINE DUPLICATE 2
AB Two galactosyl-transferases have been found in the Golgi-enriched subcellular fractions derived from rat gastric mucosa. One incorporates galactose into ovomucoid at optimal pH 6.8. The reaction can be completely inhibited by acetylglucosamine. The apparent Km for UDPgalactose is 0.024 mM. The other galactosyl-transferase incorporates galactose into desialated ovine submaxillary mucin at optimal pH 7.5 and the transfer cannot be inhibited by acetylglucosamine. The apparent Km for UDPgalactose is 0.191 mM. Both enzymes require Mn2+ and Triton X-100 for optimal galactose incorporation. The enzymes could be separated by polyacrylamide gel electrophoresis. Incorporation into endogenous glycoprotein was studied in conditions optimal for the two galactosyl-transferases: (1) at pH 6.8, using Mes as buffer system, and (2) at pH 7.5, using Tris-HCl in the presence of an inhibitory excess of acetylglucosamine. In both cases, most radioactive galactose is incorporated into macromolecules, which could be identified as epithelial glycoprotein. Endogenous incorporation in the presence of excess acetylglucosamine results in the formation of a substantial amount of a disaccharide (probably galactose-beta-(**1**-**3**)acetylgalactosamine), whereas upon incorporation at pH 6.8 almost no disaccharide is formed. Quantitative immunoprecipitation experiments with specific antibodies to the endogenous product, labelled by [3H]galactose in the presence of varying amounts of desialated ovine submaxillary mucin and/or **acetylglucosamine**, indicated that other **galactosyl-transferases** are involved in the biosynthesis of epithelial glycoprotein.

```
=> s l1 and acetylglucosamine
L6          257 L1 AND ACETYLGLUCOSAMINE

=> s l6 not l2
L7          205 L6 NOT L2

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8           153 DUP REM L7 (52 DUPLICATES REMOVED)

=> s l7 and 1,3
   6 FILES SEARCHED...
  10 FILES SEARCHED...
L9           17 L7 AND 1,3

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10           15 DUP REM L9 (2 DUPLICATES REMOVED)

=> d 1-10

L10  ANSWER 1 OF 15  EMBASE  COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 1
AN   2002252159  EMBASE
TI   A new fermentation process allows large-scale production of human milk
     oligosaccharides by metabolically engineered bacteria.
AU   Priem B.; Gilbert M.; Wakarchuk W.W.; Heyraud A.; Samain E.
CS   E. Samain, Centre de Rech. Macromol. Vegetales, CNRS, Joseph Fourier
     University, BP 53, 38041 Grenoble Cedex 9, France
SO   Glycobiology, (2002) 12/4 (235-240).
     Refs: 19
```

ISSN: 0959-6658 CODEN: CE3
CY United Kingdom
DT Journal; Article
FS 004 Microbiology
LA English
SL English

L10 ANSWER 2 OF 15 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 2
AN 2001250777 EMBASE
TI Synthesis of linear-B saccharopeptides via enzymatic galactosylation of non-natural glucosamide acceptors.
AU Schwardt O.; Baisch G.; Ohrlein R.
CS O. Schwardt, University of Basel, Institute of Molecular Pharmacy, Klingelbergstrasse 50, CH-4056 Basel, Switzerland. oliver.schwardt@unibas.ch
SO Bioorganic and Medicinal Chemistry, (2001) 9/7 (1857-1869). Refs: 40
ISSN: 0968-0896 CODEN: BMECEP
PUI S 0968-0896(01)00086-4
CY United Kingdom
DT Journal; Article
FS 029 Clinical Biochemistry
030 Pharmacology
037 Drug Literature Index
LA English
SL English; English

L10 ANSWER 3 OF 15 MEDLINE
AN 2000077662 MEDLINE
DN 20077662 PubMed ID: 10612415
TI Substrate and donor specificity of glycosyl transferases.
AU Ernst B; Oehrlein R
CS University of Basel, Institute of Molecular Pharmacy, Switzerland.. ERNSTB@ubaclu.unibas.ch
SO GLYCOCONJUGATE JOURNAL, (1999 Feb) 16 (2) 161-70. Ref: 56
Journal code: 8603310. ISSN: 0282-0080.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200001
ED Entered STN: 20000131
Last Updated on STN: 20000131
Entered Medline: 20000114

L10 ANSWER 4 OF 15 MEDLINE
AN 1999056378 MEDLINE
DN 99056378 PubMed ID: 9838999
TI Glycosyl-transferase catalyzed assemblage of sialyl-Lewis(x)-saccharopeptides.
AU Baisch G; Ohrlein R
CS Novartis Pharma AG, Basle, Switzerland.
SO BIOORGANIC AND MEDICINAL CHEMISTRY, (1998 Oct) 6 (10) 1673-82.
Journal code: 9413298. ISSN: 0968-0896.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199901
ED Entered STN: 19990209
Last Updated on STN: 19990209
Entered Medline: 19990122

L10 ANSWER 5 OF 15 SCISEARCH COPYRIGHT 2002 ISI (R)
AN 96:344513 SCISEARCH
GA The Genuine Article (R) Number: UH104
TI N-GLYCOSYLATION IN INSECTS REVISITED

AU ALTMANN F (Reprint)
CS UNIV WIEN, INST CHEM, A-1180 VIENNA, AUSTRIA
CYA AUSTRIA
SO TRENDS IN GLYCOSCIENCE AND GLYCOTECHNOLOGY, (MAR 1996) Vol. 8, No. 40, pp. 101-114.
ISSN: 0915-7352.
DT General Review; Journal
LA ENGLISH
REC Reference Count: 66
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L10 ANSWER 6 OF 15 SCISEARCH COPYRIGHT 2002 ISI (R)
AN 94:674876 SCISEARCH
GA The Genuine Article (R) Number: PM561
TI COMPARATIVE-STUDIES ON THE URIDINE-5'-DIPHOSPHATE-GALACTOSE - GLYCOPROTEIN GALACTOSYLTRANSFERASE ACTIVITY IN RAT-LIVER AND ZAJDELA ASCITIC HEPATOMA
AU IVANOV D; KARAIVANOVA V; IVANOV S; CHELIBONOVALORER H (Reprint)
CS BULGARIAN ACAD SCI, INST GEN & COMPARAT PATHOL, BU-1113 SOFIA, BULGARIA (Reprint); BULGARIAN ACAD SCI, INST GEN & COMPARAT PATHOL, BU-1113 SOFIA, BULGARIA
CYA BULGARIA
SO CANCER BIOCHEMISTRY BIOPHYSICS, (1994) Vol. 14, No. 1, pp. 35-40.
ISSN: 0305-7232.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 29
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L10 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:231228 HCAPLUS
DN 116:231228
TI Characterication of O-linked oligosaccharide biosynthesis in cultured cells using paranitrophenyl .alpha.-D-GalNAc as an acceptor
AU Zhuang, Daoling; Grey, Arthur; Harris-Brandts, Marees; Higgins, Elizabeth; Kashem, Mohammed A.; Dennis, James W.
CS Samuel Lunenfeld Res. Inst., Mt. Sinai Hosp., Toronto, ON, M5G 1X5, Can.
SO Glycobiology (1991), 1(4), 425-33
CODEN: GLYCE3
DT Journal
LA English

L10 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:451440 HCAPLUS
DN 103:51440
TI Embryonic and adult forms of two galactosyltransferases differ in their degrees of sialylation
AU Furukawa, Kiyoshi; Roth, Stephen
CS Dep. Biol., Univ. Pennsylvania, Philadelphia, PA, USA
SO Eur. J. Biochem. (1985), 150(1), 175-80
CODEN: EJBCAI; ISSN: 0014-2956
DT Journal
LA English

L10 ANSWER 9 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1984:322385 BIOSIS
DN BA78:58865
TI BRANCH SPECIFICITY OF PURIFIED RAT LIVER GOLGI UDP GALACTOSE N ACETYL GLUCOSAMINE BETA-1 4 **GALACTOSYL TRANSFERASE** EC-2.4.1.22 PREFERENTIAL TRANSFER OF GALACTOSE ON THE N ACETYLGLUCOSAMINYL-BETA-1 2-MANNOSYL-ALPHA-**1 3** BRANCH OF A COMPLEX ASPARAGINE LINKED OLIGO SACCHARIDE.
AU PAQUET M R; NARASIMHAN S; SCHACHTER H; MOSCARELLO M A
CS DEP. BIOCHEMISTRY, RES. INST., HOSPITAL SICK CHILDREN, TORONTO, ONT., CAN. M5G 1X8.
SO J BIOL CHEM, (1984) 259 (8), 4716-4721.
CODEN: JBCHA3. ISSN: 0021-9258.
FS BA; OLD
LA English

L10 ANSWER 10 OF 15 MEDLINE
AN 85003654 MEDLINE
DN 85003654 PubMed ID: 6434310
TI **Galactosyl transferases** of baby hamster kidney (BHK) cells. Characterization of two oligosaccharide products synthesised using bovine asialo submaxillary-gland mucin as acceptor.
AU Gleeson P A; Feeney J; Mills G; Hughes R C
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1984 Oct 1) 144 (1) 143-50.
Journal code: 0107600. ISSN: 0014-2956.
CY GERMANY, WEST: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198411
ED Entered STN: 19900320
Last Updated on STN: 19900320
Entered Medline: 19841109

=> d 3 ab

L10 ANSWER 3 OF 15 MEDLINE
AB It has been shown that all selectins recognize the carbohydrate epitopes sialyl Lewis(x) and sialyl Lewis(a). For the establishment of the structure-activity relationship, the efficient synthesis of these tetrasaccharides and derivatives is therefore of vital interest. The glycosyl transferase-mediated approach is summarized with emphasis on the use of modified acceptors and modified sugar-nucleotide donors. A survey of the involved enzymes: beta(**1**-**3**) and beta(1-4) **galactosyl transferases**, alpha(2-3)sialyl transferase, FucT III and FucT VI reveals that the enzymatic synthesis is highly efficient for the rapid preparation of sialyl Lewis(x)- and sialyl Lewis(a)-derivatives.

=> d 11-15

L10 ANSWER 11 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1984:182458 BIOSIS
DN BA77:15442
TI CHARACTERIZATION OF UDP GALACTOSE 2 ACETAMIDO-2-DEOXY-D GLUCOSE 3-BETA **GALACTOSYL TRANSFERASE** FROM PIG TRACHEA.
AU SHEARES B T; CARLSON D M
CS DEP. BIOCHEM., PURDUE UNIV., WEST LAFAYETTE, INDIANA 47907.
SO J BIOL CHEM, (1983) 258 (16), 9893-9898.
CODEN: JBCHA3. ISSN: 0021-9258.
FS BA; OLD
LA English

L10 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1982:245956 BIOSIS
DN BA74:18436
TI BIOSYNTHESIS OF GALACTOSYL-BETA-**1** **3**-N-ACETYL GLUCOSAMINE.
AU SHEARES B T; LAU J T Y; CARLSON D M
CS DEP. BIOCHEM., PURDUE UNIV., WEST LAFAYETTE, IND. 47907.
SO J BIOL CHEM, (1982) 257 (2), 599-602.
CODEN: JBCHA3. ISSN: 0021-9258.
FS BA; OLD
LA English

L10 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:527681 HCAPLUS
DN 93:127681
TI Role of **galactosyl-transferases** in rat gastric epithelial glycoprotein synthesis
AU Strous, Ger J. A. M.; Hendriks, Henno G. Ch. J. M.; Kramer, Mebius F.
CS Med. Sch., State Univ., Utrecht, 3511 HG, Neth.

SO Biochim. Biophys. Acta ([redacted]0), 613(2), 381-91
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English

L10 ANSWER 14 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1979:231765 BIOSIS
DN BA68:34269
TI INVOLVEMENT OF HISTIDINE 32 IN THE BIOLOGICAL ACTIVITY OF ALPHA LACT ALBUMIN.
AU PRIEELS J-P; BELL J E; SCHINDLER M; CASTELLINO F J; HILL R L
CS DEP. BIOCHEM., DUKE UNIV. MED. CENT., DURHAM, N.C. 27710, USA.
SO BIOCHEMISTRY, (1979) 18 (9), 1771-1776.
CODEN: BICHAW. ISSN: 0006-2960.
FS BA; OLD
LA English

L10 ANSWER 15 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1979:149343 BIOSIS
DN BA67:29343
TI ISOLATION AND CHARACTERIZATION OF A GOLGI-RICH FRACTION FROM THE HARDING PASSEY MOUSE MELANOMA.
AU SEIJI M; MORO S; TOMITA Y
CS DEP. DERMATOL., TOHOKU UNIV. SCH. MED., SENDAI 980, MIYAGI, JPN.
SO TOHOKU J EXP MED, (1978) 126 (1), 63-70.
CODEN: TJEMAO. ISSN: 0040-8727.
FS BA; OLD
LA English

=> d 12 ab

L10 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB The biosynthesis of galactosyl-.beta.**1**,**3**,-N-**acetylglucosamine** was demonstrated using membrane preparations from pig trachea. Unlike the UDP-galactose:2-acetamido-2-deoxy-D-glucose-4.beta.-galactosyltransferase [EC 2.4.1.22; 2.4.1.38] which is inhibited by high levels of N-**acetylglucosamine**, the UDP-galactose:N-**acetylglucosamine** 3.beta.-galactosyltransferase shows no inhibition at 200 mM N-**acetylglucosamine**. About 80% of the total disaccharide synthesized at 200 mM N-**acetylglucosamine** was base-labile, suggesting the **1**,**3**-linkage. .alpha.-Lactalbumin inhibits galactose incorporation into galactosyl-.beta.1,4-N-**acetylglucosamine** but has little or no effect on the activity of the **1**,**3**-galactosyltransferase. Escherichia coli .beta.-galactosidase readily hydrolyzed the base-stable product, but not the base-labile component. The apparent **1**,**3**-linked disaccharide was reduced with NaBH4 and was isolated by Bio-Gel P-2 column chromatography. Methylation analysis by gas chromatography/mass spectrometry showed tetramethyl galactose and a 3-substituted N-acetylglucosaminitol. Neither the .beta.1,4 nor the .beta.**1**,**3** disaccharide was hydrolyzed by green coffee bean .alpha.-galactosidase. Both disaccharides were readily hydrolyzed by bovine testes .beta.-galactosidase. This is the 1st report on the galactosyltransferase which catalyzes the synthesis of the galactosyl-.beta.**1**,**3**-N-**acetylglucosamine** linkage such as found in the Type I chain of human blood group substances. A tissue survey in rats showed only rat intestine to have readily detectable UDP-galactose:N-**acetylglucosamine** 3.beta.-galactosyltransferase activity. The intestinal membrane fraction like the tracheal enzyme catalyzes the synthesis of 2 disaccharides as judged by base treatment; these appear to be the .beta.**1**, **3** and .beta.1,4 isomers of galactosyl-N-**acetylglucosamine**
.

=> s l6 and streptococcus
L11 0 L6 AND STREPTOCOCCUS

```
=> s galactosyl (3w)transfera
L12       2894 GALACTOSYL (3W) TRANSFERASE

=> s l12 and streptococcus
L13         13 L12 AND STREPTOCOCCUS

=> dup rem l13
PROCESSING COMPLETED FOR L13
L14           6 DUP REM L13 (7 DUPLICATES REMOVED)

=> d 1-6

L14  ANSWER 1 OF 6     MEDLINE                              DUPLICATE 1
AN   2000099859     MEDLINE
DN   20099859   PubMed ID: 10634042
TI   Upregulated expression of the cDNA fragment possibly related to the
     virulence of Acanthamoeba culbertsoni.
AU   Im K I; Park K M; Yong T S; Hong Y P; Kim T E
CS   Department of Parasitology, Yonsei University College of Medicine, Seoul,
     Korea.
SO   KOREAN JOURNAL OF PARASITOLOGY, (1999 Dec) 37 (4) 257-63.
     Journal code: 9435800. ISSN: 0023-4001.
CY   KOREA (SOUTH)
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   200004
ED   Entered STN: 20000505
     Last Updated on STN: 20000505
     Entered Medline: 20000421

L14  ANSWER 2 OF 6  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   1995:290721  BIOSIS
DN   PREV199598305021
TI   Characterization of Galactosyl Transferase of Group B
     Streptococcus.
AU   Deng, Lingyi (1); Haft, Rachel F.; Wessels, Michael R.
CS   (1) Brigham and Women's Hospital, Boston, MA USA
SO   Abstracts of the General Meeting of the American Society for Microbiology,
     (1995) Vol. 95, No. 0, pp. 245.
     Meeting Info.: 95th General Meeting of the American Society for
     Microbiology Washington, D.C., USA May 21-25, 1995
     ISSN: 1060-2011.
DT   Conference
LA   English

L14  ANSWER 3 OF 6     MEDLINE                              DUPLICATE 2
AN   93360815     MEDLINE
DN   93360815   PubMed ID: 8355611
TI   Identification of cpsD, a gene essential for type III capsule expression
     in group B streptococci.
AU   Rubens C E; Heggen L M; Haft R F; Wessels M R
CS   Division of Infectious Disease, Children's Hospital and Medical Center,
     Seattle, Washington 98105.
NC   AI22498 (NIAID)
     AI28040 (NIAID)
SO   MOLECULAR MICROBIOLOGY, (1993 May) 8 (5) 843-55.
     Journal code: 8712028. ISSN: 0950-382X.
CY   ENGLAND: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
OS   GENBANK-L09116
EM   199309
ED   Entered STN: 19931008
     Last Updated on STN: 19931008
     Entered Medline: 19930917

L14  ANSWER 4 OF 6  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
```

AN 1993:409259 BIOSIS
DN PREV199396074984
TI Characterization of the srfA locus of Bacillus subtilis: Only the valine-activating domain of srfA is involved in the establishment of genetic competence.
AU Van Sinderen, Douwe; Galli, Giuliano; Cosmina, Paola; De Ferra, Francesca; Withoff, Sebo; Venema, Gerard (1); Grandi, Guido
CS (1) Dep. Genet., Centre Biol. Sci., NL-9751 NN Haren, Groningen, The Netherlands
SO Molecular Microbiology, (1993) Vol. 8, No. 5, pp. 833-841.
ISSN: 0950-382X.
DT Article
LA English

L14 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:202375 HCAPLUS
DN 114:202375
TI Transferase reactions of the .beta.-galactosidase from **Streptococcus** thermophilus
AU Smart, John B.
CS New Zealand Dairy Res. Inst., Palmerston North, N. Z.
SO Appl. Microbiol. Biotechnol. (1991), 34(4), 495-501
CODEN: AMBIDG; ISSN: 0175-7598
DT Journal
LA English

L14 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1980:267054 BIOSIS
DN BA70:59550
TI ELEVATED GLYCOSYL TRANSFERASE ACTIVITIES IN INFECTED OR TRAUMATIZED HOSTS NONSPECIFIC RESPONSE TO INFLAMMATION.
AU CANONICO P G; LITTLE J S; POWANDA M C; BOSTIAN K A; BEISEL W R
CS US ARMY MED. RES. INST. INFECT. DIS., FORT DETRICK, FREDERICK, MD. 21701, USA.
SO INFECT IMMUN, (1980) 29 (1), 114-118.
CODEN: INFIBR. ISSN: 0019-9567.
FS BA; OLD
LA English

=> d 1-6 kwic

L14 ANSWER 1 OF 6 MEDLINE DUPLICATE 1
AB . . . to be similar to cpsD, which is the essential gene for the expression of type III capsule in group B **streptococcus**. Upregulated expression of clone A289C was verified by RNA slot blot hybridization. Similar hydrophobicity values were also observed between A289C. . . . (at residues 286-305: transmembrane domains). This result suggested that the insert of clone A289C might play the same function as **galactosyl transferase** controlled by the AmsG gene in E. amylovora.

L14 ANSWER 2 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Characterization of **Galactosyl Transferase** of Group B **Streptococcus**.
IT Major Concepts
Enzymology (Biochemistry and Molecular Biophysics); Metabolism; Physiology
IT Chemicals & Biochemicals
GALACTOSYL TRANSFERASE
ORGN Super Taxa
Gram-Positive Cocci: Eubacteria, Bacteria
ORGN Organism Name
gram-positive cocci (Gram-Positive Cocci); **Streptococcus** (Gram-Positive Cocci)
ORGN Organism Superterms
bacteria; eubacteria; microorganisms
RN 9031-68-9 (**GALACTOSYL TRANSFERASE**)

L14 ANSWER 3 OF 6 MEDLI[redacted] DUPLI[redacted]E 2
AB We showed previously that a mutant strain of group B **Streptococcus** (GBS) defective in capsule production was avirulent. This study describes the derivation of an unencapsulated mutant from a highly encapsulated. . . revealed an open reading frame, designated cpsD, with significant homology to the rfbP gene of Salmonella typhimurium. RfbP encodes a **galactosyl transferase** enzyme that catalyses the transfer of galactose to undecaprenol phosphate, the initial step in O-polysaccharide synthesis. A particulate fraction of. . . UDP-galactose to an endogenous acceptor. The galactose-acceptor complex partitioned into organic solvents, suggesting it is lipid in nature or membrane-associated. **Galactosyl transferase** activity was significantly reduced in the unencapsulated mutant strain COH1-13. These results, together with the similarity in deduced amino acid sequence between cpsD and rfbP suggest that cpsD encodes a **galactosyl transferase** essential for assembly of the GBS type III capsular polysaccharide.
CT . . .
Molecular Sequence Data
Mutagenesis, Insertional
Open Reading Frames
Phagocytosis
*Polysaccharides, Bacterial: BI, biosynthesis
Rats
Sequence Alignment
Sequence Homology, Amino Acid
***Streptococcus agalactiae: GE, genetics**
Streptococcus agalactiae: ME, metabolism
Virulence: GE, genetics

L14 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
IT . . .
amino acid sequence; molecular sequence data; nucleotide sequence; GENBANK-L09116
IT Miscellaneous Descriptors
HOMOLOGY; LIPIDIC GALACTOSE-ACCEPTOR COMPLEX; PHAGOCYTIC KILLING SENSITIVITY; RFBP **GALACTOSYL TRANSFERASE** GENE; VIRULENCE
ORGN . . .
Enterobacteriaceae: Eubacteria, Bacteria; Gram-Positive Cocci: Eubacteria, Bacteria
ORGN Organism Name
endospore-forming gram-positive rods and cocci (Endospore-forming Gram-Positives); Salmonella typhimurium (Enterobacteriaceae); **Streptococcus** (Gram-Positive Cocci)
ORGN Organism Superterms
bacteria; eubacteria; microorganisms

L14 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2002 ACS
TI Transferase reactions of the .beta.-galactosidase from **Streptococcus** thermophilus
ST galactosidase transferase **Streptococcus**
IT Oligosaccharides
RL: FORM (Formation, nonpreparative)
(formation of, by .beta.-galactosidase of **Streptococcus** thermophilus)
IT **Streptococcus** thermophilus
(galactosidase of, **galactosyl transferase** reactions of)
IT Michaelis constant
(of .beta.-galactosidase, of **Streptococcus** thermophilus)
IT 9031-11-2, .beta.-Galactosidase
RL: RCT (Reactant)
(**galactosyl transferase** reactions of, of **Streptococcus** thermophilus)
IT 32694-82-9, 3'-Galactosyllactose
RL: RCT (Reactant)
(reaction of, with .beta.-galactosidase of **Streptococcus** thermophilus, kinetics of)

IT 9031-68-9, **Galactosyl tr[redacted]ferase**
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(.beta.-galactosidase of **Streptococcus** thermophilus with activity of)

L14 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB **Streptococcus** pneumoniae infection leads to multifold increases in sialytransferase, galactosyltransferase, .alpha.2-fucosyltransferase and .alpha.3-fucosyltransferase activity of rat liver. Such changes may reflect. . .
IT Miscellaneous Descriptors
STREPTOCOCCUS-PNEUMONIAE RAT LIVER HUMAN SANDFLY FEVER INFECTION ARBOVIRUS BACTERIAL INFECTION BURN TISSUE TRAUMA SIALYL TRANSFERASE **GALACTOSYL TRANSFERASE** ALPHA-2 FUCOSYL TRANSFERASE ALPHA-3 FUCOSYL TRANSFERASE ACUTE PHASE SERUM PROTEINS MACROPHAGES HOST RESPONSE
RN 9031-68-9 (**GALACTOSYL TRANSFERASE**)
9033-07-2 (GLYCOSYL TRANSFERASE)
9075-81-4 (SIALYL TRANSFERASE)
39279-34-0 (ALPHA-3 FUCOSYL TRANSFERASE)
56093-23-3 (ALPHA-2 FUCOSYL TRANSFERASE)

=> d 3 ab

L14 ANSWER 3 OF 6 MEDLINE DUPLICATE 2
AB We showed previously that a mutant strain of group B **Streptococcus** (GBS) defective in capsule production was avirulent. This study describes the derivation of an unencapsulated mutant from a highly encapsulated wild-type strain of type III GBS, COH1, by transposon mutagenesis with Tn916 delta E. The mutant, COH1-13, was sensitive to phagocytic killing by human leukocytes in vitro and was relatively avirulent in a neonatal rat sepsis model compared with the wild-type strain. No capsular polysaccharide was evident in the cytoplasm or on the cell surface of the mutant strain. The Tn916 delta E insertion site in COH1-13 was mapped to the same chromosomal location as the Tn916 insertion site in the unencapsulated type III mutant COH31-15 reported previously. Nucleotide sequencing of DNA flanking the insertion site in COH1-13 revealed an open reading frame, designated cpsD, with significant homology to the rfbP gene of Salmonella typhimurium. RfbP encodes a **galactosyl transferase** enzyme that catalyses the transfer of galactose to undecaprenol phosphate, the initial step in O-polysaccharide synthesis. A particulate fraction of a lysate of wild-type strain GBS COH1 mediated the transfer of galactose from UDP-galactose to an endogenous acceptor. The galactose-acceptor complex partitioned into organic solvents, suggesting it is lipid in nature or membrane-associated. **Galactosyl transferase** activity was significantly reduced in the unencapsulated mutant strain COH1-13. These results, together with the similarity in deduced amino acid sequence between cpsD and rfbP suggest that cpsD encodes a **galactosyl transferase** essential for assembly of the GBS type III capsular polysaccharide.

=> s miyake, //au
L15 9 MIYAKE, //AU

=> s miyake, ?/au
L16 37351 MIYAKE, ?/AU

=> s l16 and l1
L17 0 L16 AND L1

=> s watanabe, ?/au
L18 272883 WATANABE, ?/AU

=> s l18 and l1
L19 3 L18 AND L1

```
=> dup rem l19
PROCESSING COMPLETED FOR L19
L20           3 DUP REM L19 (0 DUPLICATES REMOVED)

=> d 1-3

L20  ANSWER 1 OF 3  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   1985:268643  BIOSIS
DN   BA79:48639
TI   INSULIN ACTION ON GLUCOSE TRANSPORT IN CARDIAC MUSCLE.
AU   WATANABE T; SMITH M M; ROBINSON F W; KONO T
CS   DEPARTMENT PHYSIOLOGY, SCHOOL MEDICINE, VANDERBILT UNIVERSITY, NASHVILLE,
     TENN. 37232.
SO   J BIOL CHEM, (1984) 259 (21), 13117-13122.
     CODEN: JBCHA3. ISSN: 0021-9258.
FS   BA; OLD
LA   English

L20  ANSWER 2 OF 3  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   1976:112791  BIOSIS
DN   BA61:12791
TI   SOME PROPERTIES OF UDP GALACTOSE N ACETYL GLUCOSAMINE GALACTOSYL
     TRANSFERASE IN HUMAN PAROTID SALIVA.
AU   NAKAMURA R; WATANABE T; TSUNEMITSU A
SO   J DENT RES, (1975) 54 (4), 808-813.
     CODEN: JDREAF. ISSN: 0022-0345.
FS   BA; OLD
LA   Unavailable

L20  ANSWER 3 OF 3  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   1975:101126  BIOSIS
DN   BA59:1126
TI   THE PRESENCE OF URIDINE 5 DI PHOSPHO GALACTOSE N ACETYL GLUCOSAMINE
     GALACTOSYL TRANSFERASE IN HUMAN SALIVA.
AU   NAKAMURA R; WATANABE T; YASUTAKE A; TSUNEMITSU A
SO   J DENT RES, (1974) 53 (4), 937.
     CODEN: JDREAF. ISSN: 0022-0345.
FS   BA; OLD
LA   Unavailable


=> s iijima,?/au
L21       18704 IIJIMA,?/AU

=> s l21 and l1
L22           0 L21 AND L1

=> s l1 and campylobacter
L23           0 L1 AND CAMPYLOBACTER

=> s l1 and jejuni
L24           0 L1 AND JEJUNI

=> s 1,3 galactosyltransferase
   8 FILES SEARCHED...
L25        1714 1,3 GALACTOSYLTRANSFERASE

=> s l25 and (dna or gene?)
   4 FILES SEARCHED...
   7 FILES SEARCHED...
   9 FILES SEARCHED...
L26        1087 L25 AND (DNA OR GENE?)

=> s l26 and campylobacter
L27          20 L26 AND CAMPYLOBACTER

=> dup rem l27
PROCESSING COMPLETED FOR L27
L28           5 DUP REM L27 (15 DUPLICATES REMOVED)
```

=> d 1-5

L28 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:276514 HCAPLUS
DN 136:320378
TI **Campylobacter** glycosyltransferase **genes** and enzymes for biosynthesis of gangliosides and ganglioside mimics
IN Gilbert, Michel; Wakarchuk, Warren W.
PA Can.
SO U.S. Pat. Appl. Publ., 84 pp., Cont.-in-part of U.S. Ser. No. 495,406.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002042369	A1	20020411	US 2001-816028	20010321
PRAI US 1999-118213P	P	19990201		
US 2000-495406	A2	20000131		

L28 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:37514 HCAPLUS
DN 137:16281
TI The **genetic** bases for the variation in the lipo-oligosaccharide of the mucosal pathogen, **Campylobacter** jejuni. Biosynthesis of sialylated ganglioside mimics in the core oligosaccharide
AU Gilbert, Michel; Karwaski, Marie-France; Bernatchez, Stephane; Young, N. Martin; Taboada, Eduardo; Michniewicz, Joseph; Cunningham, Anna-Maria; Wakarchuk, Warren W.
CS Institute for Biological Sciences, National Research Council of Canada, Ottawa, ON, K1A 0R6, Can.
SO J. Biol. Chem. (2002), 277(1), 327-337
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
AN 2000:553711 HCAPLUS
DN 133:161277
TI **Campylobacter** glycosyltransferases for biosynthesis of gangliosides and ganglioside mimics
IN Gilbert, Michel; Wakarchuk, Warren W.
PA National Research Council of Canada, Can.
SO PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000046379	A1	20000810	WO 2000-CA86	20000201
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1147200	A1	20011024	EP 2000-901455	20000201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, LT, LV, FI, RO				
PRAI US 1999-118213P	P	19990201		
US 2000-495406	A	20000131		
WO 2000-CA86	W	20000201		

RE.CNT 11 THERE ARE 11 CI[redacted] REFERENCES AVAILABLE FOR THIS [redacted]CORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 4 OF 5 MEDLINE DUPLICATE 2
AN 2000127862 MEDLINE
DN 20127862 PubMed ID: 10660542
TI Biosynthesis of ganglioside mimics in **Campylobacter** jejuni OH4384. Identification of the glycosyltransferase **genes**, enzymatic synthesis of model compounds, and characterization of nanomole amounts by 600-mhz (1)h and (13)c NMR analysis.
AU Gilbert M; Brisson J R; Karwaski M F; Michniewicz J; Cunningham A M; Wu Y; Young N M; Wakarchuk W W
CS Institute for Biological Sciences, National Research Council of Canada, Ottawa, Ontario K1A 0R6, Canada.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (2000 Feb 11) 275 (6) 3896-906.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-AF130466; GENBANK-AF130984; GENBANK-AF167345
EM 200003
ED Entered STN: 20000327
Last Updated on STN: 20000327
Entered Medline: 20000316

L28 ANSWER 5 OF 5 MEDLINE DUPLICATE 3
AN 2000430460 MEDLINE
DN 20392205 PubMed ID: 10931344
TI Phase variation of a beta-**1,3** **galactosyltransferase** involved in **generation** of the ganglioside GM1-like lipo-oligosaccharide of **Campylobacter** jejuni.
AU Linton D; Gilbert M; Hitchen P G; Dell A; Morris H R; Wakarchuk W W; Gregson N A; Wren B W
CS Department of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, London WC1E 7HT, UK.
SO MOLECULAR MICROBIOLOGY, (2000 Aug) 37 (3) 501-14.
Journal code: 8712028. ISSN: 0950-382X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200009
ED Entered STN: 20000922
Last Updated on STN: 20000922
Entered Medline: 20000912

=> s l28 and acetylglucosamine
L29 0 L28 AND ACETYLGLUCOSAMINE

=> s l28 and N-acetylglucosamine
L30 0 L28 AND N-ACETYLGLUCOSAMINE

=> s l28 and N-acetylgALACTOsamine
L31 0 L28 AND N-ACETYLGALACTOSAMINE

=> D 1-5 AB
L31 HAS NO ANSWERS
'1-5 ' IS NOT A VALID SEARCH STATUS KEYWORD
Search status keywords:
NONE ---- Display only the number of postings.
STATUS -- Display statistics of the search.
ENTER SEARCH STATUS OPTION (NONE), STATUS, OR ?:NONE
L25 1714 SEA 1,3 GALACTOSYLTRANSFERASE
L26 1087 SEA L25 AND (DNA OR GENE?)
L27 20 SEA L26 AND CAMPYLOBACTER
L28 5 DUP REM L27 (15 DUPLICATES REMOVED)

L31 0 SEA L28 AND [redacted]ETYLGALACTOSAMINE

=> D L28 1-5 AB

L28 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AB This invention provides **Campylobacter** jejuni glycosyltransferases, including a bifunctional sialyltransferase that has both an .alpha.2,3- and an .alpha.2,8-activity. A .beta.1,4-GaINAc transferase and a .beta.**1,3-galactosyltransferase** are also provided by the invention, as are other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). In addnl. embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for expressing the glycosyltransferases. The enzymes may be used in prepn. of gangliosides, lysogangliosides, and mimics of gangliosides and lysogangliosides. Thus, C. jejuni **gene** cstI .alpha.2,3-sialyltransferase, **gene** cstII bifunctional .alpha.2,3/.alpha.2,8-sialyltransferase, **gene** cgtA .beta.-1,4-N-acetylgalactosaminyltransferase, and **gene** cgtB .beta.-**1,3-galactosyltransferase** enzymes were used to prep. the carbohydrate portion of gangliosides GM1a, GM2, GM3, GD1a, GD3, and GT1a.

L28 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS
AB The lipo-oligosaccharide (LOS) biosynthesis loci from 11 **Campylobacter** jejuni strains expressing a total of 8 different ganglioside mimics in their LOS outer cores were compared. Based on the organization of the **genes**, the 11 corresponding loci could be classified into 3 classes, with one of them being clearly an intermediate evolutionary step between the other two. Comparative genomics and expression of specific glycosyltransferases combined with in vitro activity assays allowed identification of .gtoreq.5 distinct mechanisms that allow C. jejuni to vary the structure of the LOS outer core as follows: (1) different **gene** complements; (2) phase variation because of homopolymeric tracts; (3) **gene** inactivation by the deletion or insertion of a single base (without phase variation); (4) single mutation leading to the inactivation of a glycosyltransferase; and (5) single or multiple mutations leading to "allelic" glycosyltransferases with different acceptor specificities. The differences in the LOS outer core structures expressed by the 11 C. jejuni strains examd. can be explained by one or more of these 5 mechanisms.

L28 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
AB This invention provides prokaryotic glycosyltransferases, including a bifunctional sialyltransferase that has both an .alpha.2,3- and an .alpha.2,8- activity. A .beta.1,4-GalNAc transferase and a .beta.**1,3-galactosyltransferase** are also provided by the invention, as are other glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). The glycosyltransferases can be obtained from, for example, **Campylobacter** species, including C. jejuni. In addnl. embodiments, the invention provides nucleic acids that encode the glycosyltransferases, as well as expression vectors and host cells for expressing the glycosyltransferases.

L28 ANSWER 4 OF 5 MEDLINE DUPLICATE 2
AB We have applied two strategies for the cloning of four **genes** responsible for the biosynthesis of the GT1a ganglioside mimic in the lipooligosaccharide (LOS) of a bacterial pathogen, **Campylobacter** jejuni OH4384, which has been associated with Guillain-Barre syndrome. We first cloned a **gene** encoding an alpha-2, 3-sialyltransferase (cst-I) using an activity screening strategy. We then used nucleotide sequence information from the recently completed sequence from C. jejuni NCTC 11168 to amplify a region involved in LOS biosynthesis from C. jejuni OH4384. The LOS biosynthesis locus from C. jejuni OH4384 is 11.47 kilobase pairs and encodes 13 partial or complete open reading frames, while the corresponding locus in C. jejuni NCTC 11168 spans 13.49 kilobase pairs and contains 15 open reading frames, indicating a different organization between these two strains. Potential glycosyltransferase **genes**

were cloned individually [redacted] expressed in Escherichia coli, [redacted] assayed using synthetic fluorescent oligosaccharides as acceptors. We identified **genes** encoding a beta-1, 4-N-acetylgalactosaminyl-transferase (cgtA), a beta-**1**, **3-galactosyltransferase** (cgtB), and a bifunctional sialyltransferase (cst-II), which transfers sialic acid to O-3 of galactose and to O-8 of a sialic acid that is linked alpha-2,3- to a galactose. The linkage specificity of each identified glycosyltransferase was confirmed by NMR analysis at 600 MHz on nanomole amounts of model compounds synthesized in vitro. Using a gradient inverse broadband nano-NMR probe, sequence information could be obtained by detection of (3)J(C,H) correlations across the glycosidic bond. The role of cgtA and cst-II in the synthesis of the GT1a mimic in C. jejuni OH4384 were confirmed by comparing their sequence and activity with corresponding homologues in two related C. jejuni strains that express shorter ganglioside mimics in their LOS.

L28 ANSWER 5 OF 5 MEDLINE DUPLICATE 3
AB Ganglioside mimicry by **Campylobacter** jejuni lipo-oligosaccharide (LOS) is thought to be a critical factor in the triggering of the Guillain-Barre and Miller-Fisher syndrome neuropathies after C. jejuni infection. The combination of a completed genome sequence and a ganglioside GM1-like LOS structure makes C. jejuni NCTC 11168 a useful model strain for the identification and characterization of the **genes** involved in the biosynthesis of ganglioside-mimicking LOS. Genome analysis identified a putative LOS biosynthetic cluster and, from this, we describe a putative **gene** (ORF Cj1139c), which we have termed wlaN, with a significant level of similarity to a number of bacterial glycosyltransferases. Mutation of this **gene** in C. jejuni NCTC 11168 resulted in a LOS molecule of increased electrophoretic mobility, which also failed to bind cholera toxin. Comparison of LOS structural data from wild type and the mutant strain indicated lack of a terminal beta-1,3-linked galactose residue in the latter. The wlaN **gene** product was demonstrated unambiguously as a beta-**1**, **3 galactosyltransferase** responsible for converting GM2-like LOS structures to GM1-like by in vitro expression. We also show that the presence of an intragenic homopolymeric tract renders the expression of a functional wlaN **gene** product phase variable, resulting in distinct C. jejuni NCTC 11168 cell populations with alternate GM1 or GM2 ganglioside-mimicking LOS structures. The distribution of wlaN among a number of C. jejuni strains with known LOS structure was determined and, for C. jejuni NCTC 12500, similar wlaN **gene** phase variation was shown to occur, so that this strain has the potential to synthesize a GM1-like LOS structure as well as the ganglioside GM2-like LOS structure proposed in the literature.

=> D L14 3

L14 ANSWER 3 OF 6 MEDLINE DUPLICATE 2
AN 93360815 MEDLINE
DN 93360815 PubMed ID: 8355611
TI Identification of cpsD, a gene essential for type III capsule expression in group B streptococci.
AU Rubens C E; Heggen L M; Haft R F; Wessels M R
CS Division of Infectious Disease, Children's Hospital and Medical Center, Seattle, Washington 98105.
NC AI22498 (NIAID)
AI28040 (NIAID)
SO MOLECULAR MICROBIOLOGY, (1993 May) 8 (5) 843-55.
Journal code: 8712028. ISSN: 0950-382X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-L09116
EM 199309
ED Entered STN: 19931008
Last Updated on STN: 19931008
Entered Medline: 19930917

=> D L14 3 AB

L14 ANSWER 3 OF 6 MEDLINE DUPLICATE 2

AB We showed previously that a mutant strain of group B **Streptococcus** (GBS) defective in capsule production was avirulent. This study describes the derivation of an unencapsulated mutant from a highly encapsulated wild-type strain of type III GBS, COH1, by transposon mutagenesis with Tn916 delta E. The mutant, COH1-13, was sensitive to phagocytic killing by human leukocytes in vitro and was relatively avirulent in a neonatal rat sepsis model compared with the wild-type strain. No capsular polysaccharide was evident in the cytoplasm or on the cell surface of the mutant strain. The Tn916 delta E insertion site in COH1-13 was mapped to the same chromosomal location as the Tn916 insertion site in the unencapsulated type III mutant COH31-15 reported previously. Nucleotide sequencing of DNA flanking the insertion site in COH1-13 revealed an open reading frame, designated cpsD, with significant homology to the rfbP gene of Salmonella typhimurium. RfbP encodes a **galactosyl transferase** enzyme that catalyses the transfer of galactose to undecaprenol phosphate, the initial step in O-polysaccharide synthesis. A particulate fraction of a lysate of wild-type strain GBS COH1 mediated the transfer of galactose from UDP-galactose to an endogenous acceptor. The galactose-acceptor complex partitioned into organic solvents, suggesting it is lipid in nature or membrane-associated. **Galactosyl transferase** activity was significantly reduced in the unencapsulated mutant strain COH1-13. These results, together with the similarity in deduced amino acid sequence between cpsD and rfbP suggest that cpsD encodes a **galactosyl transferase** essential for assembly of the GBS type III capsular polysaccharide.

=> DIS HIS

(FILE 'HOME' ENTERED AT 18:02:16 ON 06 AUG 2002)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 18:02:26 ON 06 AUG 2002

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L1          2839 S GALACTOSYL (2W)TRANSFERASE
L2            52 S L1 (10A) ACETYLGLUCOSAMINE
L3             1 S L2 (10A) 1,3
L4            10 S L2 AND 1,3
L5             7 DUP REM L4 (3 DUPLICATES REMOVED)
L6           257 S L1 AND ACETYLGLUCOSAMINE
L7           205 S L6 NOT L2
L8           153 DUP REM L7 (52 DUPLICATES REMOVED)
L9            17 S L7 AND 1,3
L10           15 DUP REM L9 (2 DUPLICATES REMOVED)
L11            0 S L6 AND STREPTOCOCCUS
L12         2894 S GALACTOSYL (3W)TRANSFERASE
L13           13 S L12 AND STREPTOCOCCUS
L14            6 DUP REM L13 (7 DUPLICATES REMOVED)
L15            9 S MIYAKE, //AU
L16        37351 S MIYAKE, ?/AU
L17            0 S L16 AND L1
L18       272883 S WATANABE, ?/AU
L19            3 S L18 AND L1
L20            3 DUP REM L19 (0 DUPLICATES REMOVED)
L21        18704 S IIJIMA,?/AU
L22            0 S L21 AND L1
L23            0 S L1 AND CAMPYLOBACTER
L24            0 S L1 AND JEJUNI
L25         1714 S 1,3 GALACTOSYLTRANSFERASE
L26         1087 S L25 AND (DNA OR GENE?)
L27           20 S L26 AND CAMPYLOBACTER
L28            5 DUP REM L27 (15 DUPLICATES REMOVED)
L29            0 S L28 AND ACETYLGLUCOSAMINE
L30            0 S L28 AND N-ACETYLGLUCOSAMINE
L31            0 S L28 AND N-ACETYLGALACTOSAMINE
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=> LOG H

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	197.70	197.91

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.86	-1.86

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STN INTERNATIONAL SESSION SUSPENDED AT 18:51:29 ON 06 AUG 2002